

313-011-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Re Application of :  
Francis J. Maguire, Jr. :  
Serial No. 09/524,491 : Examiner: L. Shapiro  
Filed: March 13, 2000 : Group Art Unit: 2673  
For: MOVEABLE HEADREST FOR VIEWING IMAGES  
FROM DIFFERENT DIRECTIONS

APPELLANT'S BRIEF

MAIL STOP APPEAL BRIEF-PATENTS  
Commissioner for Patents  
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Sir:

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Marilyn O'Connell

Dated: September 15, 2003

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Re: Serial No. 09/524,491; Our Ref. 313-011-1

In response to a telephone inquiry from Examiner Shapiro, we are faxing the Appeal Brief filed September 15, 2003. The Examiner indicated that although he received the Notice of Appeal, he never received the Appeal Brief. We checked our file and we received a return postcard stamped September 15, 2003 by OIPE and we also checked our cancelled check 23159 in the amount of \$340.00 which was paid to the USPTO at that time. If anything further is needed, please advise.

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313-011-1  
Serial No. 09/524,491

1. Real Party in Interest

The real party in interest is Francis J. Maguire, Jr.

2. Related Appeals and Interferences

There are no other appeals or interferences known to Appellant which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

3. Status of Claims

Claims 1-15 are rejected and claims 1-15 are appealed.

4. Status of Amendments

The Amendment After Final cancelling claims 14 and 15 was refused entry and that amendment is hereby withdrawn.

5. Summary of Invention

A moveable headrest is mounted on or with respect to a support for supporting a user in viewing images in a standing, seated, or reclining posture. The headrest is for supporting the head of the user in executing head movements with a changing direction-of-view. A display mounted with respect to the user's head provides the images. An actuator can be provided for moving the moveable headrest for a passive user. A sensor can be provided for sensing movements of the moveable headrest, i.e., for sensing said movements from a changing direction. The moveable headrest apparatus may include either or both the actuator and the sensor.

6. Issues

- (1) Whether claims 1-2, 5-6, 10 are nonobvious over Helman (U.S. 5,791,735) in view of Reichlen (U.S. 6,396,497).
- (2) Whether claim 8 is nonobvious over Park (U.S.

313-011-1  
Serial No. 09/524,491

5,695,406) in view of Reichlen.

(3) Whether claims 3-4, 7, 11-13 are nonobvious over Helman and Reichlen, as aforementioned in view of Zavracky et al (U.S. 5,673,059).

(4) Finally, whether claim 9 is nonobvious over Reichlen in view of Helman and further in view of Zavracky et al.

(5) Whether claims 14-15 fail under 35 USC 112, first paragraph.

#### 7. Grouping of Claims

A. Claims 1-2, 5-6, 10. (Claims 1-2 and 5-6 stand or fall together for reasons given in Section 8. Likewise, claim 10 is separate and stands or falls independently of claims 1-2 and 5-6 for the reasons given below with respect to claim 10.)

B. Claim 8.

C. Claims 3-4, 7, 11-13. (Claims 3-4 and 11-13 stand or fall together and claim 7 stands or falls independently of claims 3-4 and 11-13 for the distinct reasons given below.)

D. Claim 9.

E. Claims 14-15. (Claims 14-15 stand or fall together.)

#### 8. Argument

(1.) Claims 1-2, 5-6, 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Helman (U.S. 5,791,735) in view of Reichlen (U.S. 6,396,497).

Claims 1-2 and 5-6: The primary reference of Helman relates to a headrest suitable for attachment to a wheelchair seating system for helping a disabled person who has limited control of his neck

313-011-1  
Serial No. 09/524,491

and head movement. For these patients, it is typically necessary to provide a headrest structure that properly protects and provides sufficient cradling support to the head thus preventing excessive or unexpected movement of the neck and head which could endanger the patient. See column 1, lines 11-21 of Helman.

7 { The Examiner states that Helman teaches apparatus for supporting a user *in viewing images*. However, there is nothing in Helman that discloses or suggests supporting a user in viewing images. As explained above, Helman has to do with medical equipment and not anything to do with viewing images.

The Examiner admits that Helman does not show a head of a user executing head movements to view images from a changing direction. The Examiner points to Reichlen for teaching that users can change the position of the view space shown by rotating the heads and concludes it would have been obvious to incorporate the navigation method of Reichlen in the Helman apparatus in order to perform certain computer functions without requiring use of a computer or mouse, pointing to column 2, lines 49-52 in the Reichlen reference.

First of all, Helman and Reichlen are from completely non-analogous arts and to establish a prima facie case of obviousness it is necessary for the Examiner to explain why one of skill in the art of wheelchair headrests would be motivated to use that headrest to provide head motion input, as in Reichlen, in order to be led to the claimed viewing of images from a changing direction. Similarly, why would one of skill in the art of computer user interface with head motion input look to Helman?

There is no objective teaching in either Helman or Reichlen that would lead one of ordinary skill in the art to combine the references. Helman relates to a head rest for a wheelchair and addresses the problem of supporting the head of a patient with weak neck muscles. Helman does not have anything to do with

313-011-1  
Serial No. 09/524,491

viewing images. Reichlen involves a computer interface that allows a user to control aspects of its behavior by head motion and addresses the problem of the size of standard computer terminals having become a limiting factor in presenting processed information to the user. Instead of a windowing solution, an increased display surface solution, a virtual reality solution or a solution making the view space larger than the screen and placing a map on the screen representing the various parts of an expanded desk top, Reichlen uses a head mounted display with a head tracker to create a view space comprising multiple separate portions in each of which separate computer processes can be selectively located by a user. Helman and Reichlen are directed to disparate teachings which address different problems and there is no reason or suggestion in either prior art reference to enable their combination in this obviousness analysis.

Since the Examiner has not done this and has in fact incorrectly characterized Helman as teaching a support for supporting a user in viewing images, it is believed that the Examiner has not established a prima facie case of obviousness and reversal thereof is requested for that reason alone.

Secondly, even if Helman were in some way related to the art of imaging systems as described in the Technical Field and Description of Related Art on pages 1 and 2 of the present disclosure, the Examiner's reason for making the proposed modification to Helman is not persuasive. The Examiner points to column 2, lines 49-52 of Reichlen (U.S. 6,396,497) for the motivation to combine the references. Specifically, Reichlen states that it is an object of the Reichlen invention to make it easy to perform certain computer function without requiring use of the keyboard or mouse. Reichlen does this with the position sensor 24 shown in Fig. 3 of Reichlen and also Fig. 4. According to Reichlen, the position sensor 24 generates rotation (YAW)

313-011-1  
Serial No. 09/524,491

information and vertical movement (PITCH) information in response to the movement of the transmitter 26 on the head mounted display 22 with respect to the receiver 28 at the reference point 30. See column 6, lines 20-24.

There is therefore a motivation in Reichlen to make it easy to perform certain computer functions without requiring use of the keyboard or mouse. But there is no hint or suggestion in Reichlen for using a headrest to do this.

There is likewise no hint or suggestion in Reichlen for using a headrest for supporting the head of a user in executing head movement to view the images from a changing direction.

Similarly, in the Helman reference, there is no hint or suggestion of viewing images from the wheelchair headrest but only to support the head of a person with weak neck muscles.

Claim 10: There is nothing in either Reichlen or Helman that shows a user viewing images in a *reclining posture* and, in addition, the arguments made above relating to claims 1-2 and 5-6 apply here as well.

The claimed use of a headrest for supporting a user's head while viewing images from a changing direction is a completely new invention. There is no hint or suggestion of this in either Reichlen or Helman. The Examiner has not pointed to anything in either reference that would provide the required motivation to make the proposed modification. Therefore, a sustainable obviousness rejection has not been made and reversal of the obviousness rejection of claims 1-2, 5-6 and 10 is requested.

\* \* \*

(2.) Regarding the obviousness rejection of claim 8 as being unpatentable over Park (U.S. 5,695,406) in view of Reichlen, although Park teaches a headrest for supporting a user's head, it is not a moveable headrest and is not responsive to head movements of the user for providing a sensed signal having a

313-011-1  
Serial No. 09/524,491

magnitude indicative of differing directions-of-view corresponding to said head movements.

Although Reichlen teaches a transmitter 26, the receiver 28 is not attached to the user's head and the reference point is not a sensor either. Aside from that, the location of the reference point 30 at the base of the chair 12, or any other stationary location in the vicinity of the video display system 10 still does not provide any motivation for having the head of the user supported by the head rest much less a movable head rest. There is nothing in either Reichlen or Park that shows the claimed sensor coupled to a moveable headrest for providing the sensed signal having a magnitude indicative of differing directions of view corresponding to the head movements. There is simply nothing whatsoever in the two references to Park and Reichlen that would show or suggest the claimed combination as claimed in claim 8. Park's headrest is not moveable. It is the relaxation chair supporting the subject's body positioned thereupon that is moveable.

Even if the headrest of Park were moveable, there would still be no motivation for the modification proposed by the Examiner. The reason advanced by the Examiner is that it would have been obvious to incorporate the navigation method of Reichlen in the Park apparatus in order to perform certain computer functions without requiring use of keyboard or mouse. However, Reichlen's solution for solving this problem does not have any hint or suggestion of using a moveable headrest. And as pointed out above, Park does not say anything about a moveable headrest. Therefore, a sustainable obviousness rejection has not been made and reversal of the obviousness rejection of claim 8 is requested.

\* \* \*

(3.) Claims 3-4, 7, 11-13 are rejected under § 103 as being



313-011-1  
Serial No. 09/524,491

unpatentable over Helman and Reichlen as above applied in claims 1, 2 and 10, in view of Zavracky et al (U.S. 5,673,059).

Regarding claims 3-4 and 11-13, in addition to the comments made above about Helman and Reichlen, it is completely not understood how Fig. 19 item 1372 of Zavracky has anything to do with actuating a headrest. The actuator 1372 is used to move a binary optic 1358 along a vertical axis in an LCD projector. The Examiner merely states that it would have been obvious to incorporate the actuator of Zavracky and Helman and Reichlen in order to enhance the virtual reality experience. However, the question is how can such a device such as 1358 be used to actuate a headrest and more importantly, why?

The Examiner has not given any reasons for considering item 1372 of Fig. 19 of Zavracky as having any ability to enhance the virtual reality experience or why one of skill in the art would be motivated to use it. Zavracky is from a nonanalogous art and is for solving a completely different problem.

The claimed use of an actuator to move the moveable headrest changes the viewing of the images to a passive experience. While that certainly enhances the experience for certain types of applications, the enhancement would not be thought of by one of ordinary skill in the art in possession of the teachings of Reichlen, Helman, and Zavracky. Reichlen is active, Helman has nothing to do with the imaging art, and Zavracky has to do with an LCD projection system.

Claim 7: None of the references Helman, Reichlen or Zavracky et al show the support moveable by an actuator.

Reversal of the 35 U.S.C. § 103 rejection of claims 3-4, 7, 11-13 is requested.

\* \* \*

(4.) Regarding independent claim 9, it is rejected as being unpatentable over Reichlen in view of Helman and further in view

313-011-1  
Serial No. 09/524,491

of Zavracky.

The same comments made above in connection with the previous obviousness rejection of claims 3-4, 7, 11-13 are applicable to this rejection as well.

Again, the Examiner advances the reason that it would have been obvious to combine the headrest of Helman and actuator of Zavracky et al in Reichlen's in order to perform certain computer functions without requiring the use of a keyboard or mouse.

However, Reichlen's motivation not to use a mouse does not supply the requisite motivation to combine the headrest of Helman (which has nothing to do with viewing images) with Reichlen. In order to do this, there should be some mention in Reichlen of this possibility or at least a hint in that direction. There is likewise no motivation from any of the three references to Reichlen, Helman or Zavracky to use an actuator as the control variation glass thickness device 1358 of Fig. 9 of Zavracky to actuate a headrest. This does not make a sustainable obviousness rejection and reversal of the 103 rejection of claim 9 is requested.

\* \* \*

(5.) Claims 14-15 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The original disclosure does not support the claimed subject matter of claims 14-15, i.e., the support is itself moveable by another actuator and the other actuator is responsive to a command signal from a reality engine.

The specification at page 5, lines 32-34 states that although the recliner 2a of Fig. 2 is shown as a stationary support, it could be of the type shown by Park (U.S. 5,695,406)

313-011-1  
Serial No. 09/524,491

which shows a moveable relaxation chair with the user in a reclining position with limited translation and rotational movements of the chair imparted by a motion base with actuators. The actuators move the relaxation chair and can be electrical servomotors 50a, 50b (column 9, lines 52-3) driven by a data port coupled to a computer executing a software program (column 9, lines 35-7).

The specification at page 6, lines 10-16, in connection with Fig. 3, describes a user standing in a support comprising a human activity simulator as in U.S. 5,792,031 which shows an actuator assembly 14 positioned to engage the body and formed to produce motion of the body in simulation of the modeled activity (e.g. skiing). The actuator assembly is driven using a control system and a storage device with a model of the human activity to be simulated.

The specification at page 6, lines 17-25, in connection with Fig. 4, describes a user seated in a stationary chair 2c. Although shown as a stationary support, it can be of the type shown in U.S. 5,642,302, modified appropriately to be continuously positionable. U.S. 5,642,302 shows an actuator for moving a chair in response to control signals provided to various actuators (column 3, lines 35-41).

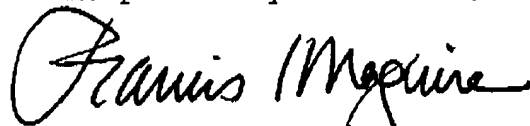
All of these passages from the specification provide support for the dependent claims 14-15 and reversal of the Section 112, first paragraph rejection thereof is requested.

\* \* \*

313-011-1  
Serial No. 09/524,491

For all of the above reasons, reversal of the rejections of the final action of March 12, 2003 is requested.

Respectfully submitted,



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313-011-1  
Serial No. 09/524,491

APPENDIX

CLAIMS:

1. (Previously Presented) Apparatus, comprising:  
a support for supporting a user in viewing images in a standing, seated, or reclining posture; and  
a moveable headrest mounted on or with respect to said support, for supporting a head of said user in executing head movements to view said images from a changing direction, wherein the headrest comprises side cushions, or both rear and side cushions, for providing the only points of contact between the user's head and the headrest.
2. (Original) The apparatus of claim 1, further comprising a display for providing said images for said viewing from said changing direction.
3. (Original) The apparatus of claim 1, further comprising an actuator for moving said moveable headrest.
4. (Original) The apparatus of claim 2, further comprising an actuator for moving said moveable headrest.
5. (Original) The apparatus of claim 4, further comprising a sensor for sensing movements of said moveable headrest.
6. (Original) The apparatus of claim 1, further comprising a sensor for sensing said movements from a changing direction.
7. (Original) The apparatus of claim 1, wherein said support is moveable by an actuator.

313-011-1  
Serial No. 09/524,491

8. (Original) Apparatus, comprising:

a sensor coupled to a moveable headrest for supporting a user's head, responsive to head movements of the user, for providing a sensed signal having a magnitude indicative of differing directions-of-view corresponding to said head movements;

a reality engine, responsive to said sensed signal, for providing an image signal indicative of a sequence of images from differing directions-of-view selected according to said sensed signal and corresponding thereto; and

a display, responsive to said image signal, for providing said sequence of images for viewing by said user from said differing directions-of-view.

9. (Original) Apparatus, comprising:

a reality engine, responsive to a start command signal, for providing an image signal indicative of a sequence of images from differing directions-of-view and for providing an actuator command signal corresponding thereto;

a display, responsive to said image signal, for providing said sequence of images for viewing by said user from said differing directions-of-view; and

an actuator, responsive to said actuator command signal, for moving a headrest supporting a user's head with movements corresponding to said differing directions-of-view.

10. (Previously Presented) Apparatus, comprising a headrest and a support for supporting a user viewing images in a reclining posture with a head of said user resting on said headrest mounted on or with respect to said support, said headrest comprising a movable headrest for supporting said head of said user in executing head movements in a changing direction

313-011-1  
Serial No. 09/524,491

of said head of said user while viewing images provided from a correspondingly changing direction of view, said head and headrest moving together in said changing direction with respect to said support.

11. (Previously Presented) The apparatus of claim 10, further comprising an actuator connected to said movable headrest for moving said movable headrest with respect to said support for changing said direction of said head of said user in executing head movements with respect to said support.

12. (Previously Presented) The apparatus of claim 11, wherein said actuator is responsive to a command signal from a reality engine for said moving said movable headrest.

13. (Previously Presented) The apparatus of claim 12, further comprising a sensor for sensing movements of said movable headrest for providing a sensed signal to said reality engine.

14. (Previously Presented) The apparatus of claim 11, wherein said support is itself movable by another actuator.

15. (Previously Presented) The apparatus of claim 14, wherein said other actuator is responsive to a command signal from a reality engine for moving said support.